ORDER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

8260.46A

10/16/00

SUBJ: DEPARTURE PROCEDURE (DP) PROGRAM

1. PURPOSE. This order provides guidance and standardization for initiating, processing, developing, and managing the DP program.

2. DISTRIBUTION. This order is distributed in Washington headquarters to the branch level in the Offices of System Safety; Aviation Policy and Plans; Air Traffic Systems Development; Aviation Research; Communications, Navigation, and Surveillance Systems; and Airport Safety and Standards; to Flight Standards, Air Traffic, and Airway Facilities Services; to the Aeronautical Information Services Division (ATA-100); to the National Flight Procedures Office (NFPO) (AVN-100), the National Airway Systems Engineering and Regulatory Standards Divisions at the Mike Monroney Aeronautical Center; to the branch level in the regional Flight Standards, Air Traffic, Airway Facilities, and Airports Divisions; to all Flight Inspection Offices; to the Flight Standards District Offices (FSDO); to all Air Traffic Field Offices and Facilities**;** to all Airway Facilities Field Offices; special mailing list ZVN-826; and Special Military and Public Addressees.

3. BACKGROUND. Prior to the implementation of the original order, instrument departure routes were produced in two formats. The first was the textually published IFR departure procedure created to ensure obstacle clearance when climbing to the en route environment. These procedures were produced by the Office of Aviation System Standards (AVN) under the guidance of the Flight Standards Service (AFS). The second format was the graphical publication of the Standard Instrument Departure (SID). SID's ensured air traffic route and altitude separation while climbing to the en route environment and reduced pilot/controller communications. They were designed and produced under the guidance of the Air Traffic Service (AAT) and then reviewed to ensure obstruction clearance by AVN. The advent of procedures designed to support modern area navigation (RNAV) systems, such as Flight Management System (FMS) and Global Positioning System (GPS), requires development and processing of both conventional (non-RNAV) and RNAV departures in a common manner that accomplishes both the purposes of textual IFR departure procedures and graphic SID's. This document establishes development, processing, and management policy for the production of a combined product called a departure procedure (DP).

4. CANCELLATION. Order 8260.46, Instrument Departure Procedure (DP) Program, dated December 29, 1997, is canceled.

5. EFFECTIVE DATE. December 15, 2000.

Distribution: A-W(SY/PO/UA/AR/ND/AS/FS/AT/AF)-3; ATA-100 (15 Cys); AVN-100 (150Cys)**;** AOS-200 (10Cys); AMA-200 (80 Cys); A-X(FS/AT/AF/AS)-3; A-FFS-4 (ALL); A-FFS-7 (STD); A-FAT-0 (STD); A-FAF-0 (STD); ZVN-826; Special Military and Public Addressees

Initiated By: AFS-420

6. EXPLANATION OF CHANGES.

a. Paragraph 10a. Types of departures defined and the terms “obstacle DP” and “system enhancement DP” introduced.

b. Paragraph 10b. Obstacle DP’s development and charting (textual versus graphic) policy clarified. Table 1 added.

c. Paragraph 10c. Criterion for DP’s developed for system enhancements expanded and clarified.

d. Paragraph 10d. DP equipment requirements added.

e. Paragraph 10e. DP design constraints added.

f. Paragraph 10f. DP charting constraints added.

g. Paragraph 11. RNAV DP criteria levels added.

h. Paragraph 12f. NFDC responsibilities expanded and clarified.

i. Paragraph 13. Added paragraph concerning verification of published information and responsibilities of various offices to ensure immediate action is taken to correct any charting or pre-publication errors.

j. Paragraph 15. This paragraph added to explain the use of FAA 8260-15 series forms.

k. Appendix 1. Updated to reflect new terms, abbreviations, and acronyms.

l. Appendix 2. RNAV DP guidelines expanded for clarification.

m. Appendix 3. Appendix changed to apply to graphic DP’s, type of DP deleted, frequency requirements added, and worksheet updated.

n. Appendix 5. FAA 8260-15 series forms revised and completion instructions expanded for clarification.

7. DEFINITIONS. Appendix 1 contains a glossary of terms, abbreviations, and acronyms used in this order.

8. FORMS AND REPORTS. Appendices 3, 4, and 5 contain requirements data, applicable forms, and associated instructions.

9. RELATED PUBLICATIONS.

a. Order 1050.1, Policies and Procedures for Considering Environmental Impacts.

b. Order 7100.11, Area Navigation (RNAV) Procedures Program.

c. Order 7400.2, Procedures for Handling Airspace Matters

d. Order 8260.3, United States Standard for Terminal Instrument Procedures (TERPS).

e. Order 8260.19, Flight Procedures and Airspace.

f. Order 8260.26, Establishing and Scheduling Standard Instrument Procedure Effective Dates.

g. Order 8260.40, Flight Management System (FMS) Instrument Procedure Development.

h. Order 8260.44, Civil Utilization of Area Navigation (RNAV) Departure Procedures.

i. RTCA DO-187, Minimum Operational Performance Standards for Airborne Area Navigation Equipment Using Multi-Sensor Inputs.

j. ARINC Specification 424, Navigation System Data Base.

10. TYPES OF DEPARTURE PROCEDURES.

a. General. There are two basic types of DP's; those developed to assist pilots in obstruction avoidance, referred to as "obstacle DP," and those developed to enhance the air traffic control system, referred to as "system enhancement DP."

b. Obstacle DP's. An obstacle DP must be developed when the NFPO application of diverse departure criteria to a runway under Order 8260.3 results in a requirement for higher than standard takeoff minimums and/or climb gradient requirements. This will be considered the default IFR departure procedure for a given runway and is intended for pilot awareness and use in the absence of other ATC instructions. See table 1 for allowable development combinations relating to specific obstacle situations. Also, see Order 8260.19, paragraph 470.

Table 1. Development Combinations

SITUATION	ACTION
1) TERPS obstacle assessment does not identify any obstacle penetrations; i.e., diverse departure evaluation successful.	No further action required – standard takeoff minimums apply.
2) TERPS obstacle assessment identifies obstacles within the initial climb area (ICA)/Zone 1 that require a CG greater than 200 feet/NM to an altitude 200 feet or less above DER.	Establish a DP that provides the pilot a NOTE identifying the obstacle(s) type, location relative to the DER, height (AGL), and elevation (MSL).
3) TERPS obstacle assessment identifies obstacles that require a CG greater than 200 feet/NM to an altitude greater than 200 ft above DER. *NOTE: Obstacle location may be within or beyond the ICA/Zone 1.*	A) Obstacle **3 SM or less** from DER: Establish a DP that provides the pilot a NOTE identifying the obstacle(s) type, location relative to the DER, height (AGL), and elevation (MSL), and which specifies: 1) a ceiling and visibility to see and avoid the obstacle; and 2) the option of standard takeoff minimums with a minimum CG to a specified altitude; and/or 3) provide a

	specific textual or graphic route to avoid the obstacle(s). See NOTE below: B) Obstacles **greater than 3 SM** from DER: Establish a DP for obstacle avoidance that specifies: 1) standard takeoff minimums with a required CG to a specified altitude; and 2) a ceiling and visibility sufficient to allow a visual climb over the airport (VCOA) to an altitude that will provide obstacle clearance, and/or 3) provide a specific textual or graphic departure route to avoid the obstacle(s). *NOTE: Where a graphic route is published, include on the chart: takeoff minimums, required CG's, and controlling obstacle data for each runway using the DP.* C) If neither action A or B is feasible, an IFR departure must not be authorized.
4) TERPS obstacle assessment identifies obstacles requiring a CG to 200 feet or less above DER and additional obstacles that require a CG to an altitude greater than 200 feet above DER.	Apply a combination of action items from situations 2) and 3).

(1) An obstacle DP may be either textually or graphically depicted within the following guidelines.

(a) Relatively simple obstacle DP's may be published textually unless the procedure specialist believes that graphical publication is required for clarity. Textual DP's include a climb gradient when required for obstruction avoidance; but must not include ATC related climb gradients. Textual departure instructions must not include more than one turn, altitude change, or climb gradient. Textual DP's must not be developed solely for use by RNAV-equipped aircraft.

(b) Complex obstacle DP's are those that require a visual presentation to clearly communicate the departure instructions and desired flightpaths. If the obstacle DP is depicted graphically, it must be stipulated on the Form 8260-15A in the "TEXTUAL DP" section; e.g. "USE JONES DEPARTURE." The decision to graphically publish obstacle DP's rests within the NFPO. When determining if an obstacle DP requires graphical publication, the NFPO must, in addition to the textual DP restrictions noted in paragraph 10b(1)(a), consider:

1. The number of ground-based NAVAID's and fixes.

2. Whether graphical depiction will enhance pilot comprehension of the procedure.

3. The proximity and effect of precipitous or significant terrain.

4. Air traffic operational requirements to ensure efficiency and reduce communications.

(2) Establish only one obstacle DP for a runway.

(3) The NFPO must develop obstacle DP's with primary emphasis given to using the least onerous route (see appendix 1) to the en route structure, while accommodating commonly used routings out of each airport to the maximum extent practicable. The NFPO must coordinate with ATC to ensure flight safety is maintained and that the basic requirement of least onerous routing is compatible with existing ATC routing and airspace design/structure. ATC altitude restrictions and/or climb gradients must not be included in obstacle DP development.

(4) Obstacle DP's must be developed using conventional avionics, RNAV, or dead reckoning guidance.

c. System Enhancement DP's. DP's for system enhancement must be developed by the NFPO when requested by Air Traffic to assist in meeting environmental, capacity, and control requirements. System enhancement DP's may also be requested by specific ATC facilities, the military services, or other proponents to enhance operations. These DP's also provide protection from obstacles and are depicted graphically; however, they will not contain the "Obstacle" designation on the chart.

d. Equipment Requirements. DP's are also identified by equipment requirements as follows:

(1) Non-RNAV DP. A DP established for aircraft equipped with conventional avionics using ground-based NAVAID's; e.g., non-directional beacon (NDB), very high frequency omni-directional range (VOR), VHF omni-directional range/tactical air navigation (VORTAC), localizer (LOC), etc. These DP's may also be designed using dead reckoning navigation.

(2) RNAV DP. A DP established for aircraft equipped with RNAV avionics; e.g., GPS, FMS, etc. These aircraft use /E, /F, and /G equipment suffixes. Automated vertical navigation must not be required.

e. Design Constraints. The following design constraints apply to all DP's:

(1) Obstacle DP's must not require a turn prior to reaching an altitude that is at least 400 feet above the departure end of runway (DER) except when required by TERPS.

NOTE: For turns less than 400 feet above DER, apply TERPS early-turn criteria only after all other options have been explored. Application to DP's utilized by transport category aircraft should be avoided where possible, and approval must be obtained from Flight Standards Service. Include the following textual instructions: "... as soon as practicable…."

(2) System enhancement DP's must not require turns prior to 400 feet above DER unless absolutely required for ATC purposes. In these instances, TERPS departure criteria guidelines apply.

(3) DP's requiring a climb gradient in excess of 500 feet/NM, either for obstacle clearance or air traffic control restrictions, need approval from Flight Standards Service.

(4) The middle marker (MM) must not be used as a fix to designate a turning point.

(5) Graphic DP's must be designed to terminate at a fix/NAVAID depicted on an IFR en route chart.

(6) Textual DP's must be designed to terminate at 1) a fix/NAVAID depicted on an IFR en route chart; or 2) at an altitude that will allow random IFR flight.

f. Charting Constraints. The following charting constraints apply to all DP's:

(1) Charting Minimum Altitudes. Graphic DP's must depict minimum altitudes for obstruction clearance; and, where appropriate, any required minimum ATC altitudes. When obstacle and ATC altitudes are required, document both values regardless of the difference between the two. Enter minimum altitudes to be charted on the appropriate FAA 8260-15 series form (see appendix 5).

(2) Charting Minimum Climb Gradients. Graphic DP's must depict minimum climb gradient(s) that exceed 200 feet/NM, required for both obstruction clearance and ATC purposes. Multiple climb gradients may be published; however, an ATC climb gradient must not be less than that required for obstruction clearance. Enter minimum climb gradients for charting on the appropriate FAA 8260-15 series form. See appendix 5 and Order 8260.19, chapter 4, section 7.

(3) Obstacle DP's that are depicted graphically must have the term "OBSTACLE" printed on the graphic (see appendix 5).

(4) All graphic DP's must include applicable takeoff minimums, climb gradients, and controlling obstacle data on the graphic.

11. DEPARTURE PROCEDURE LEVELS. Order 8260.44 provides two levels of criteria (Levels 1 and 2) to support varied operational requirements. Order 8260.40 provides another more exacting level of criteria, Level 3, which requires a special authorization. Each criterion level is associated with appropriate aircraft equipment suffixes defined in the Aeronautical Information Manual (AIM). Additionally, each criteria level is associated with different design criteria, proceeding from the widest obstacle clearance areas for Level 2 to the narrowest area for Level 3. Refer to Order 8260.44 for determination of the appropriate required navigational performance (RNP) associated with each level. The procedure specialist will generally employ Level 2 criteria, as it is suited for most RNAV aircraft equipment suffixes with no other operational constraints. Level 1 applies operational constraints and employs more exacting design criteria. Level 1 or 3 criteria is beneficial in obstacle/terrain intensive environments where route development is difficult or impossible for Level 2 criteria application. Use of

Levels 1 or 3 criteria will necessarily exclude some RNAV-equipped aircraft. RNAV DP requests/recommendations to the NFPO should stipulate the desired DP Level where operationally necessary; otherwise, the NFPO will employ Level 2 criteria in the DP design.

12. RESPONSIBILITIES.

a. General.

(1) Cancellation. Civil DP cancellation is initiated by the NFPO, and must be coordinated with ATC or DOD. A proponent recommendation for cancellation should be directed to the appropriate ATC facility providing departure control service for the airport. ATC or DOD then requests, or forwards a proponent recommendation for, civil DP cancellation to the NFPO for action.

(2) Procedure Requests. Departure procedures for system enhancement are normally requested by the ATC facility responsible for departure control at the airport where the procedure is proposed, or by another proponent.

(3) Requirements. ATC must provide the NFPO detailed operational requirements and restrictions for inclusion in DP design. AVN must make every effort to meet ATC identified operational requirements and constraints using current criteria and policy. When current criteria and policy will not support a design to meet ATC requirements, AVN, AAT, and other interested parties must work together to find an acceptable solution. AFS-420 will provide assistance on request.

b. Proponent. A proponent's request must be made/forwarded to the ATC facility providing departure control service to the airport and must include the following:

(1) An outline of the type of procedure and expected benefits.

(2) A proposed ground track, including waypoints and altitudes, or assistance in the development of same.

c. ATC. When assisting a proponent or requesting a DP, the ATC facility providing departure control service must:

(1) Evaluate the proponent's request to ascertain preliminary operational feasibility and to determine/verify that significant benefits (see appendix 2) will be derived.

(2) To assist in designing the procedure, provide the proponent with copies of appendices 2 and 3 and information pertaining to traffic flow and operational constraints; e.g., routes, minimum IFR altitudes, facility/sector lateral and vertical airspace boundaries, special use airspace, etc.

NOTE: When an ATC facility proposes development of an RNAV departure procedure from an airport whose traffic mix is primarily air carrier traffic, it may attempt to obtain a "lead carrier" to ensure flyability and assist in the proposed procedure's suggested design (see Order 7100.11)

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(3) Coordinate with other ATC facilities affected by the procedure.

(4) Act as the focal point for all ATC coordination and provide appropriate assistance in resolving any problems identified during the development process.

(5) Contact ATA-300 for assistance/guidance to conduct a noise screening.

NOTE: Notice 7210.360, Noise Screening Criteria for Certain Air Traffic Actions Above 3,000 Feet, has expired; however noise screening is still required. The requirement will be re-established in a proposed Air Traffic environment order.

(6) Conduct an environmental review under Order 1050.1 to ensure that the requirements of the National Environmental Policy Act have been met.

NOTE: The following information is extracted from Order 1050.1 "When an FAA action is requested from the public, there may be particular situations such as issuance of various certificates, approval of airline operating specifications or amendments, establishment of new or revised instrument approaches/DP's affecting noise sensitive areas, etc., which will require the FAA to do an environmental assessment. Whenever this situation occurs, FAA action may be delayed unless the applicant or other interested persons furnish assistance in the development of pertinent environmental data."

(7) Coordinate with the servicing ARTCC to obtain a 5-letter pronounceable name for all fixes in the DP. Complete the Form 8260-2 worksheet for each fix being established, modified, or canceled. Include the worksheet(s) as part of the DP request package (see appendix 4). Existing fixes/NAVAID's should be used where conveniently located.

(8) Complete the DP requirements data worksheet (see appendix 3).

(9) Forward the requested package to the appropriate FPO. The package must contain worksheets for all fixes, the DP requirements data worksheet, and a sketch of procedures requiring graphic publication (see appendix 5).

(10) Review DP's initiated/forwarded by ATC at least biennially for continued need, and make recommendations to the NFPO for improvement to the NAS. See paragraph 12a(1).

d. The FPO shall:

(1) Review the DP package for completeness.

(2) Review DP's for impact by current or proposed Obstacle Evaluation/Airport Airspace Analysis (OE/AAA), Facilities and Equipment, National Change Proposal (NCP), or other applicable projects.

NOTE: The point-of-contact (POC) and telephone number for the ATC facility is listed on the Graphic DP requirements worksheet. The FPO must contact the POC to resolve any problems in developing the requested procedure and provide appropriate

alternatives. The POC must be responsible for additional coordination of changes required for development. The FPO should coordinate with the Flight Standards All Weather Operations/Program Manager (AWO/PM) for assistance where necessary.

(3) Forward the DP package to the NFPO.

e. The NFPO must:

(1) Develop and process textual DP's on Form 8260-15A, Takeoff Minimums and Textual Departure Procedures (DP), under applicable directives.

(2) Develop and process graphic DP's on Form 8260-15B, Graphic Departure Procedure (DP), and, as appropriate, Form 8260-15C, Departure (Data Record), under applicable directives.

(3) Submit DP's to Flight Inspection Operations Division, AVN-200, for necessary action.

(4) After satisfactory flight inspection, forward the original Form(s) 8260-2, Radio Fix and Holding Data Record, and original 8260-15 series forms to NFDC with copies to all affected ATC facilities.

(5) Develop, review, track, and cancel NOTAM (D)'s relating to graphic DP's and FDC NOTAM's relating to textual DP's.

(6) Review the NFPO initiated DP's periodically for continued need, obstacle clearance, and compliance with current criteria and policy; and coordinate proposed changes with the appropriate ATC facility.

(7) Follow up all original Form 8260-15A's with SIAP amendments. Either a P-NOTAM or amended 8260 series form may be used.

(8) When it is necessary to cancel a DP, process the appropriate Form 8260-15 under Order 8260.19.

(9) Procedure amendments are not necessary when a DP is canceled; however, update the SIAP 8260 series forms at the next periodic review.

f. The NFDC must:

(1) Conduct a pre-publication review of submitted forms to ensure compatibility with the National Airspace System Resources, National Data Base, and compliance with applicable directives relative to form entries.

(2) Assign an effective date and publish textual DP's in the transmittal letter (TL) authorizing charting agencies to publish the procedure.

(3) Assign an effective date and publish graphic DP's, and associated fixes, in the daily National Flight Data Digest (NFDD) authorizing charting agencies to publish the procedure.

(4) Resolve data conflicts, form discrepancies, etc., with the NFPO.

(5) Review and track FDC NOTAM's relating to textual DP's.

(6) File and maintain the original signed copy of the forms.

13. ACCURACY VERIFICATION AND RESPONSIBILITIES. Any ATC facility, DOD, proponent, charting agency, procedure user, concerned individual, organization, or office should:

a. Notify the NFPO of published errors (including omissions) that affect safety of flight by the fastest means available. The NFPO must take appropriate FDC NOTAM or NOTAM (D) action under Order 8260.19.

b. Notify the NFDC whenever pre-publication errors are discovered in the TL or NFDD. NFDC should also be notified of charting errors in published aeronautical products; the NFDC will take appropriate corrective action in concert with the NFPO.

14. MILITARY DEPARTURE PROCEDURES.

a. Military DP's are not handled or published in the same manner as civil DP's. Approval authority for DP's at military airports rests with the military. The FAA develops U.S. Army DP's under Order 8260.15, U.S. Army Terminal Instrument Procedures Service. The FAA develops U.S. Air Force DP's at domestic civil airports under Order 8260.32, U.S. Air Force Terminal Instrument Procedures Service. The National Imagery and Mapping Agency (NIMA) publishes all military DP's in the DOD Flight Information Publications (FLIP).

NOTE: Military DP's must be named and numbered in accordance with the criteria outlined in this order.

b. The FAA requires that all military DP's be coordinated with FAA ATC facilities or regions when such DP's affect the NAS. The applicable ARTCC or regional Air Traffic Divisions must assist the military in coordinating the procedures and in obtaining computer codes to ensure that the procedures are properly interfaced with the NAS. U.S. Air Force and Navy procedures are NOT sent to NFDC.

c. When military DP's affect airspace under the jurisdiction of FAA facilities, those affected ATC facilities/ARTCC's must maintain copies of the applicable military or FAA 8260-series forms.

15. FAA 8260-15 SERIES FORMS (see appendix 5)**.**

a. The 8260-15 series forms document and facilitate transmittal of nonstandard takeoff minimums and/or departure procedures. These forms will be the basis for charting agencies to publish non-standard takeoff minimums, departure procedures, and/or to add/delete charting

icons used to denote that other than standard takeoff minimums and/or specific obstacle departure procedures are published.

(1) Use Form 8260-15A.

(a) To document nonstandard takeoff minimums and/or higher than standard climb gradients for a runway.

(b) To document textual departure procedures.

(c) To document other pertinent textual data for publication; e.g., obstacle data notes, VCOA data, etc.

(2) Use Form 8260-15B.

(a) To graphically depict complex obstacle avoidance DP's.

(b) To document graphic departure route procedures that enhance the ATC system, RNAV DP's, military, or other proponent requested DP's.

(c) To Deny Lower than Standard Takeoff Minimums. When touchdown and rollout runway visual range (RVR) are available on runways with centerline lights and either RVR is installed on a baseline GREATER than 250 feet, deny takeoff minimums lower than RVR 1200 by adding the following standard NOTE on Form 8260-15:

"RWY 27R, Air Carrier reduction below RVR 1200 NA.

(3) Use Form 8260-15C to document other pertinent procedural data; e.g. fixes, NAVAID's, routes, altitudes, etc. required for charting data base development on RNAV DP's. These forms must be promulgated in the NFDD. Specific instructions for completion are on the reverse side of the form.

b. **Administratively process the 8260-15 series forms** as specified in Order 8260.19, chapter 8.

c. **Cancellation of Form 8260-15(s).** Cancel specific takeoff minimums for an airport or cancel any textual or graphical DP(s) no longer required, as follows:

(1) Enter the current information from the bottom line of page 1 of the affected form(s) into the corresponding blocks on blank Forms 8260-15A and/or B.

(2) Enter/Overprint "Canceled effective (desired cancellation date or routine)" or "Canceled concurrent with_____" on the Forms 8260-15A and/or B (a stamp may be used for this purpose).

(3) Explain the desired cancellation date beneath the entry in paragraph 15c(2), if other than routine.

d. **Charting agencies will add the "T" symbol** to the instrument approach procedure (IAP) charts, based on an original Form 8260-15A.

e. Government charting agencies will delete the "T" symbol from the IAP charts based on Form 8260-15A cancellation(s).

16. INFORMATION UPDATE. Forward for consideration any deficiencies found, clarification needed, or suggested improvements regarding the content of this order to:

DOT/FAA
Flight Procedure Standards Branch, AFS-420
P.O. Box 25082
Oklahoma City, OK 73125

a. Your Assistance is Welcome. Form 1320-19, Directive Feedback Information, is included at the end of this order for your convenience. If an interpretation is needed immediately, you may call the originating office for guidance. However, you should also use Form 1320-19 as a follow-up to the verbal conversation.

b. Use the "Other Comments" block of this form to provide a complete explanation of why the suggested change is necessary.

L. Nicholas Lacey
Director, Flight Standards
Service

APPENDIX 1. ABBREVIATIONS, TERMS, AND DEFINITIONS

ATC. Air Traffic Control.

ARTCC. Air Route Traffic Control Center.

Default DP. The primary departure procedure developed by AVN-100 to assure obstruction clearance during takeoff and climb to the en route structure. This procedure is charted and referred to as the "Obstacle DP."

DER. Departure End of Runway.

DOD. Department of Defense.

DP. Departure Procedure. An instrument procedure published for pilot use, in graphic and/or textual format, to provide obstacle clearance and transition from the terminal environment to the en route structure. DP's may also be developed to enhance the air traffic control system through increased routing efficiency and in the reduction of communications.

DP Transition. A published segment used to connect the basic DP to one or several en route airways/jet routes.

Electronic Transmission. Transmittal via electronic mail (e-mail) or facsimile (FAX).

Fix. A generic term used to define a predetermined geographical position used for route definition. A fix may be a ground-based NAVAID, a waypoint, or defined by reference to one or more radio NAVAID's.

Fly-By Waypoint. A fly-by waypoint requires the use of turn anticipation to avoid overshoot of the next flight segment.

Fly-Over Waypoint. A fly-over waypoint precludes any turn until the waypoint is overflown and is followed either by an intercept maneuver of the next flight segment or direct flight to the next waypoint.

FPO. Flight Procedures Office. An element of the National Flight Procedures Office, AVN-100, geographically located at each FAA regional headquarters.

Lead Carrier. An air carrier or operator that has agreed to serve as the focal point for the development of DP's at a specific airport. The lead carrier agrees to help develop the DP and ensure flyability by all RNAV-equipped aircraft expected to use the DP.

Least Onerous Route. The obstacle DP route established over terrain or other obstacles which results in the lowest possible climb gradient for that runway.

NAVAID. Navigational Aid. See Aeronautical Information Manual (AIM). Any visual or electronics device airborne or on the surface which provides point-to-point guidance information or position data to aircraft in flight.

NFDC. National Flight Data Center, ATA-110. The FAA office responsible for the collection, validation, and dissemination of all aeronautical information relating to the NAS.

NFDD. National Flight Data Digest. A daily publication, prepared by the NFDC, to promulgate non-regulatory changes to the NAS.

NFPO. National Flight Procedures Office, AVN-100. The FAA office responsible for the development, maintenance, quality control, technical approval, and cancellation of public use instrument procedures.

Non-RNAV DP. A DP whose ground track is based on ground-based NAVAID's and/or dead reckoning navigation.

Obstacle DP. A DP developed by AVN-100 when application of TERPS diverse departure criteria results in a requirement for higher than standard takeoff minimums and/or a specified climb gradient for obstruction clearance. This term is commonly referred to as the "default DP."

Proponent. The originator of a DP requirement. This may include an individual user group, ATC, NFPO, or other appropriate government agency.

RNAV. Area Navigation.

RNAV DP. A DP developed for RNAV-equipped aircraft whose ground track is not dependent on ground-based NAVAID's.

RNP. Required Navigational Performance. A statement of the navigational performance accuracy necessary for operation within defined airspace. See the AIM for current definition.

Significant Benefits. Tangible or intangible advantages resulting from the implementation of a DP such as fuel savings from reduced flight tracks and time, reduced inter/intra-facility coordination, reduced communications between ATC and pilots, increased flexibility of airspace management and sectorization due to more predictable ground tracks, or other similar benefits to users or providers.

Slant E (/E). See the AIM for current definition.

Slant F (/F). See the AIM for current definition.

Slant G (/G). See the AIM for current definition.

System Enhancement DP's. DP's developed by AVN-100 when requested by Air Traffic or other proponents to assist in meeting environmental, capacity, operational, and control requirements.

TERPS. Order 8260.3, United States Standard for Terminal Instrument Procedures.

Transmittal Letter (TL). A biweekly publication, prepared by the NFDC, used as the medium to promulgate instrument procedures and their effective dates for publication.

Waypoint (WP). A predetermined geographical position used for route definition and/or progress reporting purposes defined by latitude/longitude and may include elevation.

APPENDIX 2. PROPONENT'S GUIDELINES FOR THE DESIGN OF PUBLISHED GRAPHIC INSTRUMENT DEPARTURE PROCEDURES (DP's)

1. GENERAL.

a. Safety is a primary concern and DP's must be designed so that they provide obstacle clearance, least onerous routing, and can be confidently and consistently flown by all aircraft expected to use the procedure.

b. The DP should provide for a significant user/system benefit.

c. The DP should reduce pilot/controller communications and workload.

d. The DP should be relatively simple and easily understood.

e. Use only the minimum number of fixes, turns, or altitude changes necessary to depict the route.

f. The DP must be developed to accommodate as many different types of aircraft as possible.

g. The DP must be designed to terminate at an en route fix/NAVAID depicted on an IFR en route chart.

h. Avoid the use of distance measuring equipment (DME) arcs.

2. NAMING OF GRAPHICALLY DEPICTED DP's (see pages 4 and 5 for examples).

a. DP's designed using radar vectors as the primary navigation source are normally named to correspond with the terminal control facility name. For example, the DP from Tampa International Airport is named the TAMPA THREE; the DP from Greater Cincinnati Airport is named the CINCINNATI EIGHT. If the terminal control facility name is already in use, use a fix, city, airport, or geographical area name in that order.

b. DP's designed using conventional or RNAV guidance are normally named to correspond with the en route fix/NAVAID name where the DP ends. For example, a DP from Altoona-Blair County Airport that ends at the TATES fix is named the TATES TWO. If the DP is an RNAV procedure, the "RNAV" must be included in the name; for example, TATES TWO RNAV.

c. If two or more DP's end at the same fix/NAVAID, the second and subsequent DP's must be named for the city, airport, or geographical area in that order. For example, a DP from Greater Cincinnati Airport that ends at the REDSS fix is named the REDSS FOUR. A DP from Cincinnati-Lunken Airport that also ends at the REDSS fix is called the LUNKEN SEVEN.

d. Number each original DP "ONE." Number subsequent revisions in numerical sequence through NINE and then start over with ONE. Renumber DP's whenever a revised FAA 8260-series form is required.

3. TRANSITION NAMING. DP transition names must always correspond with the fix/NAVAID where the transition ends. For example, the FORT LAUDERDALE SEVEN DEPARTURE termination fix is the Fort Lauderdale VORTAC (FLL) and it has a transition to the ZAPPA intersection; the transition name is ZAPPA. The REDSS FOUR DEPARTURE terminates at the REDSS fix and it has a transition to the Johnstown VORTAC (JTS); the transition name is JOHNSTOWN.

4. COMPUTER CODES (see pages 4 and 5 for examples).

a. Instrument Departure Procedure. DP computer codes are assigned to all graphic DP's (including radar vector DP's) by using the abbreviated name of the DP; i.e., a NAVAID 3-letter identifier, a 5-letter fix name, or other 5-letter code, followed by the current DP number, then a dot, followed by the fix/NAVAID identifier where the basic DP ends. For example, the CINCINNATI EIGHT DEPARTURE in paragraph 2a is coded "CVG8.CVG;" the FORT LAUDERDALE SEVEN DEPARTURE in paragraph 3 is coded "FLL7.FLL;" and the "TATES TWO DEPARTURE in paragraph 2 is coded "TATES2.TATES."

b. Departure Procedure Transition. DP transition computer codes are assigned by using the basic DP identifier and number as noted in paragraph 4a, followed by a dot, followed by the identifier of the en route fix where the transition ends. Using the Fort Lauderdale example in paragraph 3, the ZAPPA transition is coded "FLL7.ZAPPA." Using the REDSS example, the Johnstown transition is coded "REDSS4.JTS.

5. RNAV DP's. The following general criteria and guidelines apply only to DP's designed for exclusive use by certain RNAV-equipped aircraft. See Orders 8260.40 and 8260.44 for specific guidance.

a. Waypoints.

(1) Use fly-by waypoints whenever possible.

(2) Use fly-over waypoints only when operationally necessary or for obstacle clearance.

***NOTE**: Due to repeatability and path definition problems, fly-over waypoints are not compatible with RNP procedure design. When required for turn limitation, environmental, or operational reasons, a fly-over waypoint may be used with the understanding that the first segment following the fly-over waypoint would not qualify for RNP.*

(3) Design procedures using the fewest number of waypoints.

(4) Code all waypoints *as fly-over or fly-by.*

b. Legs.

(1) In order for the RNAV procedure to eventually qualify as an RNP type procedure, the following ARINC 424 leg-types should be used:

(a) IF. Initial fix.

(b) TF. Track to a fix.

(c) RF. Constant radius to a fix (pending criteria development).

(2) Procedures should be designed using seamless path construction avoiding any route discontinuities or gaps.

(3) Leg Length.

(a) Use the longest legs possible. The designer must consider speed and course changes when determining minimum leg length. See Orders 8260.40 and 8260.44 for specific minima.

(b) There is no minimum leg length for straight-line paths. Exception: Do not develop leg lengths in the en route environment exceeding 260 miles to ensure the geodesic path does not exceed the protected airspace for a great circle path.

6. Speed.

a. Use specified aircraft speeds and/or ambient wind conditions only when necessary to achieve an operational advantage. Annotate the DP accordingly; e.g., "Do not exceed 170 KIAS until passing ALPHA WP" or "DP NA" when tailwind component exceeds 7 Kts."

(1) Where procedure designers make assumptions regarding altitude and wind that could result in higher procedural altitudes and/or increased segment length, refer to Order 8260.40 for guidance and examples relating to specific ground speed applications.

(2) The AVN-100 procedure specialist may recommend or impose a speed restriction to ensure obstacle clearance or airspace efficiency during turns. Refer to applicable DP criteria directives.

7. Altitude.

a. Keep altitude restrictions to a minimum.

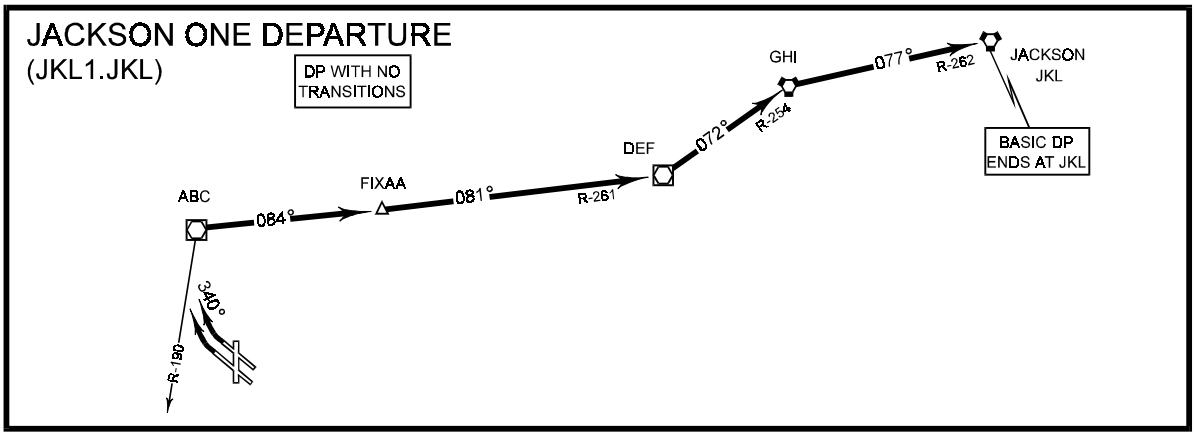
b. Use hard altitude restrictions only when absolutely necessary.

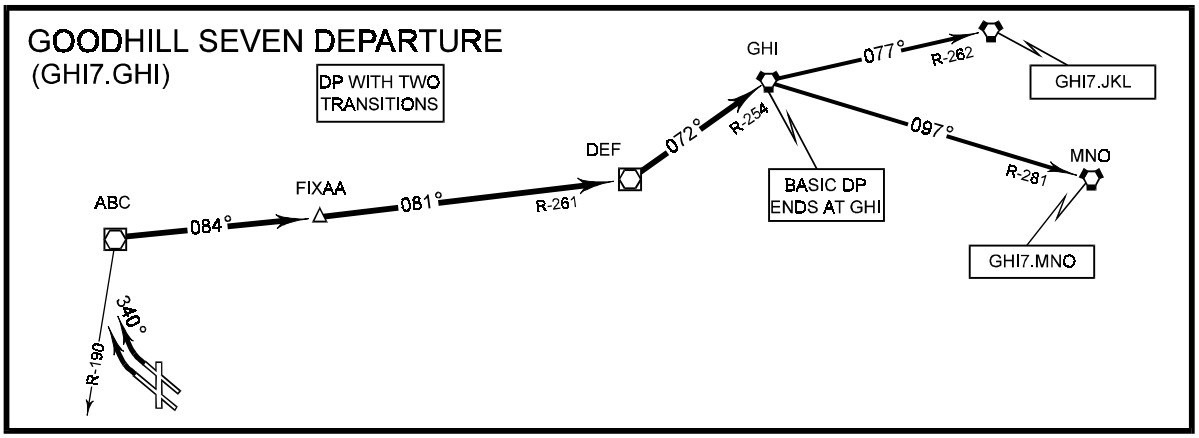
c. Use at-or-below, at-or-above, or block altitudes whenever possible.

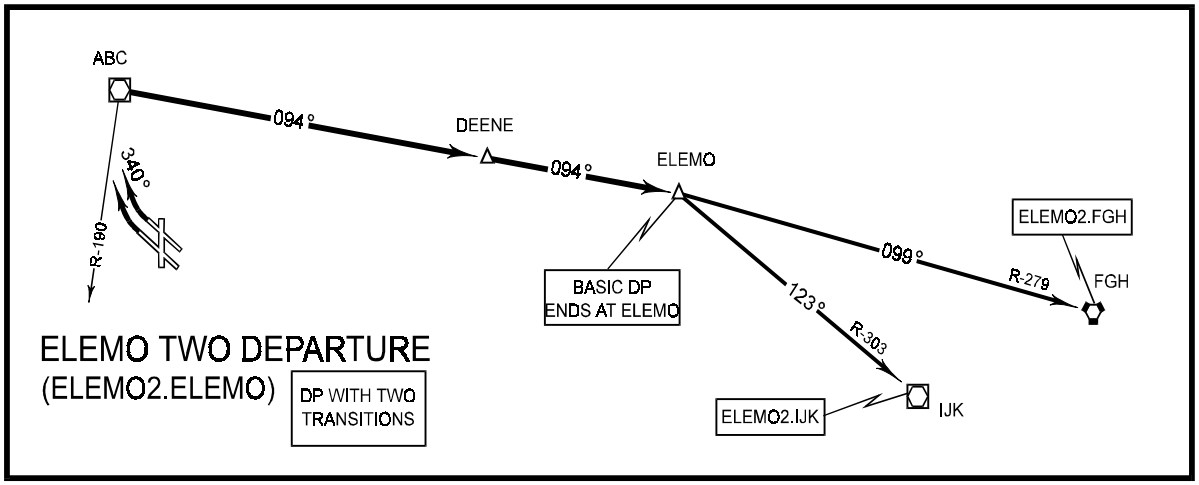
d. Procedure designers should use good judgement and common sense, coupled with operational input where available, to restrict procedural altitudes due to precipitous terrain.

8. Climb Gradient (CG). DP's are designed assuming a minimum standard CG of 200 feet per nautical mile (feet/NM) to ensure required obstacle clearance is achieved. Higher CG's must be published when required for obstruction clearance or ATC altitude requirements. Refer to Order 8260.44 for CG computation criteria.

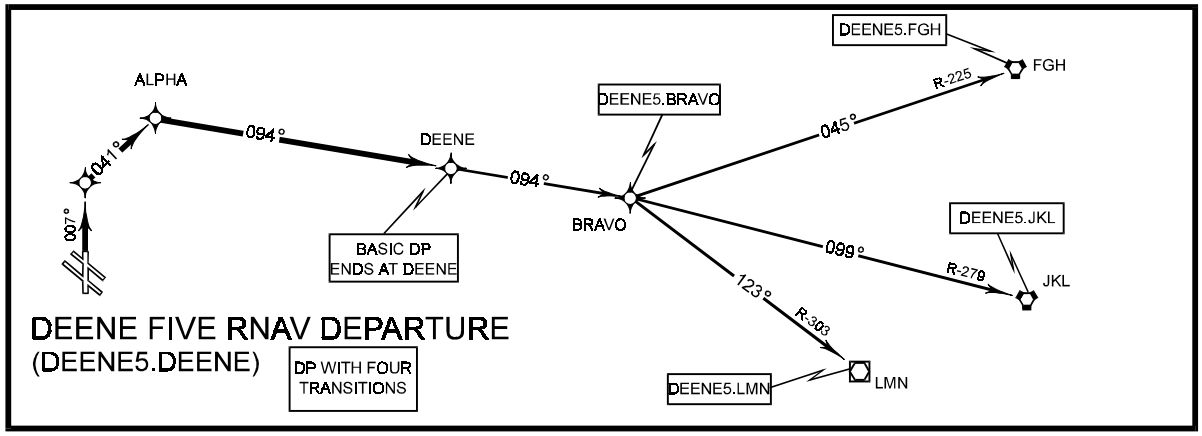
EXAMPLES:


JACKSON ONE DEPARTURE
(JKL1.JKL)
DP WITH NO TRANSITIONS
ABC
084°
FIXAA
081°
R-261
DEF
072°
R-254
GHI
077°
R-262
JACKSON
JKL
BASIC DP ENDS AT JKL
340°
R-190


GOODHILL SEVEN DEPARTURE
(GHI7.GHI)
DP WITH TWO TRANSITIONS
ABC
084°
FIXAA
081°
R-261
DEF
072°
R-254
GHI
077°
R-262
GHI7.JKL
097°
MNO
R-281
GHI7.MNO
BASIC DP ENDS AT GHI
340°
R-190


ABC
094°
DEENE
094°
ELEMO
340°
R-190
BASIC DP ENDS AT ELEMO
099°
R-279
ELEMO2.FGH
FGH
123°
R-303
ELEMO2.IJK
IJK
ELEMO TWO DEPARTURE
(ELEMO2.ELEMO)
DP WITH TWO TRANSITIONS

EXAMPLES (Continued):



APPENDIX 3. GRAPHIC DP REQUIREMENTS WORKSHEET

Instructions for completing the DP requirements worksheet by *other* than NFPO personnel.

This worksheet may be used to process changes to existing DP's. In such cases, only complete those BLOCKS needed to convey the request/recommendation.

BLOCK 1. AIRPORT(S). Enter the name(s) of the airport(s) and the ICAO identifier(s) of each.

BLOCK 2. CITY AND STATE. Self-explanatory.

BLOCK 3. DP NAME AND COMPUTER CODES. Enter the proposed name of the DP and computer code. Use the naming and computer code conventions as outlined in appendix 2. Coordinate the proposed name(s) and code(s) with the servicing ARTCC to ensure there are no duplications.

BLOCK 4. ACTION REQUIRED. Indicate whether a new procedure is being established or modifying an existing DP.

BLOCK 5. COMMUNICATIONS. Indicate the communications functions to be charted; e.g., ATIS, AWOS/ASOS, CTAF, clearance delivery, departure control, etc. List frequency(ies) only if different than what is currently published for the facility or unique to the procedure. Coordinate with ATC as necessary.

BLOCK 6. ROUTE:

6.1. RUNWAY(S)/HELIPADS/VERTIPORTS. Indicate the runway number(s) or helipads/vertiports the DP will serve.

6.2. INITIAL ROUTE FROM RUNWAY. Where specifically required by ATC, enter the initial routing from the runway end.

6.3. ATC REQUESTED ROUTING/OPERATIONAL PARAMETERS. Enter any information that would assist the procedure developer by providing flexibility in ground tracks. For example, if ATC needs the departure track to go generally south and join a route at a specified point and the exact ground track is not important, so state. Conversely, if there is flexibility to the east but there is an operational constraint to the west, that should be indicated. In extraordinary cases, when exact ground track is the primary concern in RNAV DP's, specify desired routing. ATC should specify the routing based on ATC needs.

6.4. FIX(ES). Enter each fix in the order flown. Enter coordinates to the nearest 0.01 arc second when known.

6.5. ATC REQUIRED ALTITUDES. Enter any altitude restrictions associated with each fix.

BLOCK 7. TRANSITIONS:

7.1 IDENTIFICATION. Enter the proposed name and computer code of each transition (see block 3).

7.2. TRANSITION FIX(ES). See block 6.4.

7.3. ATC REQUIRED ALTITUDES. See block 6.5.

7.4. ATC OPERATIONAL PARAMETERS. See block 6.3.

BLOCK 8. LOST COMMUNICATIONS. List specific lost communications instructions if other than 14 CFR Part 91.185 (standard).

BLOCK 9. GRAPHIC DEPICTION. Provide a basic sketch of the procedure. The sketch may be hand drawn, computer generated, or overlaid on the appropriate portion of a controller chart. It is not necessary for the sketch to be to an exact scale. The intent here is to provide the procedure developer with a visual correlation of the textual route description.

BLOCK 10. REQUESTED PUBLICATION DATE OR AIRSPACE DOCKET NUMBER. Enter the desired effective date that coincides with the charting cycle. If the DP effective date is to be concurrent with an airspace action, enter the docket number, which may be obtained from the regional Airspace Branch (AXX-520). See Order 8260.26 for specific guidance.

BLOCK 11. REMARKS.

11.1. Indicate that the environmental review under Order 1050.1 and the noise screening have been accomplished.

NOTE: Notice 7210.360, Noise Screening Criteria for Certain Air Traffic Actions Above 3,000 Feet, has expired; however, the noise screening is still required. The requirement will be re-established in a proposed Air Traffic environment order.

11.2. Enter appropriate information to clarify a data entry; e.g., airspeed restriction for air traffic, maximum altitude for aircraft performance, etc.

11.3. If the proposed DP does not meet the criteria requirements in paragraph 10 of the basic order, a statement of justification is necessary to explain why a graphically depicted DP is required. Avoid publication of unnecessary graphically depicted DP's.

11.4 For RNAV DP's developed under Order 8260.44, use standard NOTES as follows:

a. Level 1: "For use by /E, /F, and /G equipped aircraft. (1) /E and /F aircraft are required to update navigation system at a known location within 30 minutes prior to takeoff. (2) /G aircraft with selectable course deviation indicator (CDI) must set CDI to 1 NM terminal sensitivity. Aircraft without selectable CDI must use flight director."

b. Level 2: "For use by /E, /F, and /G-equipped aircraft."

c. Level 3: Refer to Order 8260.40B for procedure note instructions.

BLOCK 12. POINT-OF-CONTACT (POC): Self-explanatory.

GRAPHIC DP REQUIREMENTS WORKSHEET

1. AIRPORT(S) _____ _____ _____ _____ _____

2. CITY AND STATE_____

3. DP NAME _____ **COMPUTER CODE**_____

4. ACTION REQUIRED: ESTABLISH____ **AMEND**_____

5. COMMUNICATIONS: Enter an X in the space provided next to the communications function listed. Enter the frequency when a nonstandard frequency has been specified.

ATIS_____**AWOS/ASOS**_____**CLEARANCE DELIVERY** _____**GROUND**____

TOWER _____**CTAF** _____**DEPARTURE CONTROL** _____**ARTCC**_____

6. ROUTE:

6.1. RUNWAY(S)_____**HELIPADS/VERTIPORTS**_____

6.2. INITIAL ROUTE FROM RUNWAY_____

6.3. ATC REQUESTED ROUTING/OPERATIONAL PARAMETERS_____

_____

6.4. FIX(ES):

NAME_____**NAVAID**_____**LAT/LONG**_____**ALT**_____

NAME_____**NAVAID**_____**LAT/LONG**_____**ALT**_____

NAME_____**NAVAID**_____**LAT/LONG**_____**ALT**_____

NAME_____**NAVAID**_____**LAT/LONG**_____**ALT**_____

NAME_____**NAVAID**_____**LAT/LONG**_____**ALT**_____

NAME_____**NAVAID**_____**LAT/LONG**_____**ALT**_____

NAME_____**NAVAID**_____**LAT/LONG**_____**ALT**_____

6.5. ATC REQUIRED ALTITUDES: _____

GRAPHIC DP REQUIREMENTS WORKSHEET (Continued)

7. TRANSITIONS:

7.1 IDENTIFICATION:

NAME_____**COMPUTER CODE**_____

NAME_____**COMPUTER CODE**_____

NAME_____**COMPUTER CODE**_____

NAME_____**COMPUTER CODE**_____

NAME_____**COMPUTER CODE**_____

7.2 TRANSITION FIX(ES): *NOTE: If fix/NAVAID is currently published on an en route chart, enter only the fix name and/or facility ID, and required altitude.*

NAME_____**NAVAID**_____**LAT/LONG**_____**ALT**_____

NAME_____**NAVAID**_____**LAT/LONG**_____**ALT**_____

NAME_____**NAVAID**_____**LAT/LONG**_____**ALT**_____

NAME_____**NAVAID**_____**LAT/LONG**_____**ALT**_____

NAME_____**NAVAID**_____**LAT/LONG**_____**ALT**_____

NAME_____**NAVAID**_____**LAT/LONG**_____**ALT**_____

NAME_____**NAVAID**_____**LAT/LONG**_____**ALT**_____

7.3. ATC REQUIRED ALTITUDES: _____

7.4. ATC OPERATIONAL PARAMETERS: _____

8. LOST COMMUNICATIONS: _____

GRAPHIC DP REQUIREMENTS WORKSHEET (Continued)

9. GRAPHIC DEPICTION: *(NOTE: Depiction should clearly portray intended routing, fixes, NAVAID's, and altitudes to be used in the DP.)*

10. REQUESTED PUBLICATION DATE OR AIRSPACE DOCKET NUMBER_____

11. REMARKS:

12. POINT-OF-CONTACT:_____

ATC Facility Name.

POC's Name.

Telephone Number.

FAX Number.

E-Mail Address.

APPENDIX 4. 8260-2, DATA WORKSHEET

Instructions for completing 8260-2, Data Worksheet, for proponents OTHER than the NFPO.

BLOCK 1. REQUESTED PUBLICATION DATE. Enter the desired effective date that coincides with the charting cycle (see Order 8260.26, appendix 1). If the Form 8260-2 request is to be in conjunction with an airspace action, obtain the docket number from the regional Airspace Branch (AXX-520). For Form 8260-2 requests associated with a DP request, allow at least 20 weeks lead-time from the desired effective date.

BLOCK 2. FIX NAME. Enter the 5-character pronounceable name obtained from ARTCC. Do not include "WP" as part of the name.

BLOCK 3. FIX TYPE. Indicate the type of fix; e.g. radar, WP (a geographical position), DME (fixes made up of a single radial/bearing and DME, or multiple DME's), VHF (fixes made up of 2 VOR radials), VHF/LF (fixes made up of a VOR radial and an NDB bearing). Indicate all combinations that make up the fix.

BLOCK 4. LOCATION. Latitude and longitude accurate to the hundredth of a second; e.g., 09.25 sec. NAVAID radial/bearing/distance values must also be entered to the appropriate hundredth value; e.g., 347.23°; 08.37NM.

BLOCK 5. TYPE OF ACTION REQUIRED. Establish, modify, or cancel the fix.

BLOCK 6. HOLDING. When climb-in-holding is required, provide detailed holding instructions including altitude and speed (if other than standard).

BLOCK 7. CHARTING. Check appropriate blocks. Indicate required charting; i.e., terminal en route.

BLOCK 8. REMARKS. Other airports/procedures associated with fix (if known). Justify the requirement for other than routine processing and charting. Include any other information that may assist in developing the fix.

BLOCK 9. POINT-OF-CONTACT (POC). Self explanatory.

Form 8260-2, DATA Worksheet

1. **REQUESTED PUBLICATION DATE:** _____
2. **FIX NAME:** _____
3. **FIX TYPE:** _____
4. **LOCATION:** _____
5. **TYPE OF ACTION REQUIRED:** _____
6. **HOLDING:** _____
7. **CHARTING:** _____
8. **REMARKS (Use additional paper if required):**

---

9. **POINT OF CONTACT (POC):**

ATC Facility Name.

POC's Name.

Telephone Number.

FAX Number.

E-Mail Address.

APPENDIX 5

USE AND COMPLETION OF FAA FORM 8260-15A, TAKEOFF MINIMUMS AND TEXTUAL DEPARTURE PROCEDURES (DP)

USE AND COMPLETION OF FAA FORM 8260-15B, GRAPHIC DEPARTURE PROCEDURE (DP)

USE AND COMPLETION OF FAA FORM 8260-15C, DEPARTURE (DATA RECORD)

INSTRUCTIONS FOR COMPLETING
FAA FORM 8260-15A
TAKEOFF MINIMUMS AND TEXTUAL DEPARTURE PROCEDURES (DP's)

PAGE 1.

NOTE: *Develop a Form 8260-15A for only one airport; however, it may encompass any or all runways for that airport.*

BLOCK (1). TAKEOFF MINIMUMS.

1. List runways authorized standard takeoff minimums; e.g., **RWY 11, 27, 35 Standard**.

2. Immediately below, list by runway any *deviations* from standard minimums, and/or restrictions; e.g. **RWY 9, 1000-2 or standard with minimum climb of 280 feet per NM to 1,600. RWY 17, 29, NA.**

a. When obstacles in the initial climb area (ICA)/Zone 1 cause a climb gradient to less than 200 feet above DER, do not publish takeoff minimums or a climb gradient. Instead, identify the obstacle data by note for publication in the TAKEOFF OBSTACLES BLOCK.

b. When obstacles 3 SM or less from DER preclude standard takeoff minimums (NOTE: the obstacle may be within or beyond ICA/Zone 1):

(1) Provide a NOTE identifying the obstacle(s) in the TAKEOFF OBSTACLES BLOCK (see BLOCK 3).

(2) Provide higher than standard takeoff minimums followed by the alternative of standard minimums with a specified climb gradient. Use standard NOTE in paragraph 2.

(3) Identify the obstacle data in the OBSTACLES BLOCK.

c. When obstacles beyond 3 SM of DER preclude standard takeoff minimums:

(1) Provide standard takeoff minimums with minimum climb gradient requirements. Use standard NOTE in paragraph 2.

(2) Provide higher than standard takeoff minimums to allow a visual climb over the airport (VCOA). Use standard NOTE in the following format: RWY XX (CIG/VSBY). "Climb in visual conditions to cross (reference point) (direction of flight) (minimum climb-to altitude), (route)." Examples:

(a) RWY 9, 1100-2½ . Climb in visual conditions to cross DER westbound at or above 1,200 MSL before proceeding on course.

(b) RWY 27, 4100-2½ . Climb in visual conditions to cross XYZ VOR southeast bound at or above 4,200 MSL then proceed via XYZ R-150 to HAMET.

(3) If neither of these actions is feasible, or if another reason(s) precludes DP development (noise abatement, environmental), an IFR departure must not be authorized. Use standard NOTE:

RWY 27, NA - Obstacles.
RWY 35, NA – Environmental.
RWY 17, NA – Obstacles and noise abatement.

BLOCK (2). TEXTUAL DP.

1. **When a specific departure route is necessary,** provide the complete text, by runway, for required DP's.

a. **When a DP routing is required** and VOR or TACAN is used to define the route, use the format: **RWY 9 - CLIMBING LEFT TURN VIA ABC VORTAC R-310 TO 6000 BEFORE PROCEEDING ON COURSE;** or **RWY 35 - CLIMBING LEFT TURN VIA ABC VORTAC R-310 TO 6000, THEN CLIMBING RIGHT TURN TO 8000 DIRECT ABC VORTAC….**

b. **When a DP routing is required** and NDB is used to define the route, use course to or bearing from the NDB; e.g., **RWY 35 - CLIMB RWY HEADING…, THEN CLIMBING RIGHT TURN VIA 020 BEARING FROM ABC NDB TO 6000 BEFORE PROCEEDING ON COURSE;** or **RWY 35 - CLIMB VIA HEADING 030…, THEN VIA 015 BEARING FROM ABC NDB TO 4000, THEN CLIMBING LEFT TURN TO 8000 VIA 160 COURSE TO ABC NDB. CLIMB IN ABC NDB HOLDING PATTERN TO 12000 BEFORE PROCEEDING ON COURSE.**

c. When a DP routing is required and a localizer course is used to define the route, use direction of localizer course to be flown; e.g., **"RWY 5 - CLIMB NE ON LOCALIZER COURSE TO 3000 BEFORE TURNING."**

d. When the departure instructions must be graphically depicted, inform the pilot of the name of the default Obstacle DP, and submit an accompanying Form 8260-15B. Use standard NOTE:

"USE JONES DEPARTURE."

2. It is not appropriate to use the wording "**Comply with DP or..."** This could be confusing and cause the pilot to use a different routing than was expected by ATC.

3. **Do not use the phrase "...or comply with ATC instructions."** The pilot is aware that ATC instructions are to be complied with, when possible, and safety of flight is not compromised.

BLOCK (3). TAKEOFF OBSTACLES. Identify controlling obstacles.

1. **Enter a NOTE regarding obstacles** found within 3 SM of the DER that preclude standard takeoff minimums. These obstacles are those which penetrate the OIS and require a ceiling and visibility greater than 200-1 and/or a climb gradient greater than 200 feet/NM.

2. The NOTE must include the runway affected, and inform the pilot of the obstacle(s) type and location relative to the DER, and height (AGL/elevation (MSL). When there are obstacles on both sides of the runway centerline extended, note the most significant obstacles left and right of the runway centerline. Phrases such as "multiple antennas, numerous trees, etc." are acceptable. Use standard NOTE:

"NOTE: RWY 35, trees 120 feet left of DER, 50 feet AGL/1,527 feet MSL."

"NOTE: RWY 17, multiple buildings 500 feet from DER, 350 feet right of centerline, 50 feet AGL/1,107 feet MSL. Antenna, 6,000 feet from DER, 1,235 feet left of centerline, 200 feet AGL/1,257 feet MSL."

3. These obstacle NOTES must be published by charting agents.

BLOCK (4). OBSTACLES. Identify the location of obstacles.

1. **Document all obstacles referred to in Block (3).**

2. Document the controlling obstacle(s) when development of a departure routing is required. These obstacles are normally found outside the initial climb area, but within subsequent departure area boundaries. The obstacle should be charted even though it may be outside the OIS for the specific route developed.

3. **List the runway affected,** elevation and type of obstacle, and the coordinates to the nearest 0.01 second; e.g., **"RWY 32: 2,049 MSL Terrain 341548.01/862101.05."**

BLOCK (5). CITY AND STATE. Complete this block with the same location data as on the associated approach procedure(s).

BLOCK (6). AIRPORT. Complete this block with the same airport name data as on the associated approach procedure(s).

BLOCK (7). EFFECTIVE DATE. Leave blank. The effective date will normally be added by NFDC. Enter an effective date only when a specific effective date is required; e.g., Mag Var rotation.

BLOCK 8. AMDT NO. Enter standard entry as on SIAP's.

PAGE 2.

BLOCK (9). CHANGES. List changes relating to data entries on page 1.

BLOCK (10). REASONS. List reasons for changes relating to data entries on page 1.

BLOCK (11). COORDINATED WITH. Enter **"X"** in the appropriate boxes. Specify other required coordination. DP coordination must be identical with the approach procedure coordination as outlined in Order 8260.19, paragraph 837d.

BLOCK (12). REQUIRED EFFECTIVE DATE.

1. Enter the effective date as noted in Order 8260.19, paragraph 837c, except that "Proposed" dates may not be used for DP's. Optimally, submit as routine.

***NOTE**: If the obstacle DP is "complex" and must be depicted graphically, en route data submission cutoff dates apply.*

2. If the Form 8260-15A represents a concurrent action, place an attention symbol (* for example) in the effective date space and enter the following standard NOTE in the body of the form:

***Concurrent with (IAP name and amendment number).**

BLOCK 13. FLIGHT INSPECTED BY. Enter the name of the airspace system inspection pilot who conducted the flight inspection, and the date.

BLOCK 14. DEVELOPED BY. Enter the name of the procedure specialist developing the data, and the NFPO branch. This individual must sign in the "developed by" space, and enter the date signed.

BLOCK (15). APPROVED BY. Enter the name of the AVN-100 Manager, or his/her delegated representative. This individual must sign in the "approved by" space, and enter the date signed.

U.S. DEPARTMENT of TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

TAKEOFF MINIMUMS AND TEXTUAL DEPARTURE PROCEDURES (DP)

Bearings, headings, courses, tracks, and radials are magnetic. Elevations and altitudes are in feet, MSL. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statute miles or feet RVR unless otherwise indicated.

(1) TAKEOFF MINIMUMS:

(2) TEXTUAL DP:

(3) TAKEOFF OBSTACLES:

(4) OBSTACLES:

(5) City, State	(6) Airport	(7) Effective Date	(8) Amdt. No.

(9) Changes:

(10) Reasons:

(11) Coordinated With:

ATA ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER ☐ (specify) _____

(12) Required Effective Date:

(13) FLIGHT INSPECTED BY	**(14) DEVELOPED BY**	**(15) APPROVED BY**
Name: Date:	Signature: Date:	Signature: Date:

INSTRUCTIONS FOR COMPLETING FAA FORM 8260-15B
GRAPHIC DEPARTURE PROCEDURE (DP)

PAGE 1.

NOTE: *Attach an up-to-date, clear graphic depiction of the procedure. DO NOT include a textual description of transitions or departure route text.*

TITLE LINE: Check "Obstacle" box if default DP.

BLOCK (1). DP ROUTE DESCRIPTION. Provide the initial climb out instructions for each runway and a textual description of the departure route to the basic DP termination fix. Include only information pertinent to the departure procedure.

BLOCK (2). TRANSITION ROUTES.

(a) Transition Name. Name each transition according to the name of the fix, or NAVAID 3-letter ID, at the transition termination point entered in BLOCK 3(d). Do not include the word "TRANSITION."

(b) Transition Computer Codes. Enter computer code furnished by ATC (see appendix 2).

(c) From FIX/NAVAID. Fix/NAVAID where each transition begins (normally, the en route fix where the basic DP ends); e.g., **DANNY INT, BICKR WP**.

(d) To FIX/NAVAID. En route fix/NAVAID where each transition ends; e.g., **DANNY INT, BICKR WP**.

(e) Course/Distance. Specify the course and distance for each transition segment. Enter the actual magnetic to the hundredth of a degree, and distance to the hundredth of a mile (see Order 8260.19, chapter 8). NOS will round for publication.

(f) MEA/MOCA. Enter MEA/MOCA along transition route. By definition, the MEA also encompasses the MRA. If transitions share a common segment, make sure the MEA for that segment is the same for each transition.

(g) Crossing Altitudes/Fixes. DP's must accommodate ATC and obstacle clearance requirements with regard to minimum fix crossing altitudes and climb gradients. Document the ATC altitude, followed by the altitude required for obstacle clearance; e.g., **BECKY at/above 9000/6500.** Charting agencies must depict the obstacle clearance altitude as a minimum crossing altitude (MCA). ATC and obstacle altitude values must be charted regardless of separation.

NOTE: *To determine the MCA, assume 200 feet/NM aircraft climb capability until reaching an altitude suitable for en route flight (refer to 14 CFR Part 91.177); then apply the provisions of TERPS paragraph 1730.*

BLOCK (3). PROCEDURAL DATA NOTES/TAKEOFF MINIMUMS. For each runway, depict all takeoff minimums **(even if standard)** to include nonstandard climb gradients (both obstacle and ATC), affecting the charted DP. Enter any information that is to appear in note form on the graphic depiction; e.g., DME required, minimum climb rate information, etc. Also, depict all restrictions and performance requirements to fly the procedure. Annotate runway(s) where IFR DP's are not authorized, followed by the reason(s); e.g., obstacles, noise abatement, environmental. Use standard NOTE:

RWY 27, NA - Obstacles.
RWY 35, NA – Environmental.
RWY 17, NA – Obstacles and noise abatement.

BLOCK (4). TAKEOFF NOTES. Identify controlling obstacles.

1. Enter a NOTE regarding obstacles found within 3 SM of the DER that preclude standard takeoff minimums. These obstacles are those which penetrate the OIS and require a ceiling and visibility greater than 200-1 and/or a climb gradient greater than 200 feet/NM.

2. The note must include the runway affected, and inform the pilot of the obstacle(s) type and location relative to the DER, and height (AGL/elevation (MSL). When there are obstacles on both sides of the runway centerline extended, note the most significant obstacles left and right of the runway centerline. Phrases such as "multiple antennas, numerous trees, etc." are acceptable. Use standard NOTE:

"NOTE: RWY 35, trees 120 feet left of DER, 50 feet AGL/1,527 feet MSL."

"NOTE: RWY 17, multiple buildings 500 feet from DER 350 feet right of centerline, 50 feet AGL/1,107 feet MSL. Antenna 6,000 feet from DER, 1,235 feet left of centerline, 200 feet AGL/1,257 feet MSL.

3. These obstacle NOTES must be published by charting agents.

BLOCK (5). DP OBSTACLES. Document all obstacles referred to in BLOCK (4).

1. Document the controlling obstacle(s) when development of a departure routing is required. These obstacles are normally found outside the initial climb area, but within subsequent departure area boundaries. The obstacle should be charted even though it may be outside the OIS for the specific route developed.

2. List the runway affected, elevation and type of obstacle, and the coordinates to the nearest 0.01 second; e.g., "**RWY 32: 2,049 MSL Terrain, 341548.01/862101.05."**

BLOCK (6). FIXES AND/OR NAVAID'S. Enter only those fixes and/or NAVAID's for which charting is requested but are not included in the textual description of the departure or transition route.

BLOCK (7). DP NAME. Enter name of departure procedure. For example: the CATHEDRAL SEVEN DEPARTURE is entered as CATHEDRAL; the JONES SIX RNAV DEPARTURE is entered as JONES RNAV.

BLOCK (8). NUMBER. Enter departure procedure number (spelled out); e.g. EIGHT.

BLOCK (9). DP COMPUTER CODE. Enter computer identification code furnished by ATC (see appendix 2).

BLOCK (10). SUPERSEDED NUMBER. Departure procedure number (spelled out) superseded by this procedure.

BLOCK (11). DATED. Date of superseded procedure. Format: DD MMM YY.

BLOCK (12). EFFECTIVE DATE. Leave blank. The effective date will normally be added by NFDC. Enter an effective date only when a specific effective date is required; e.g., Mag Var rotation.

PAGE 2.

BLOCK (13). AIRPORTS SERVED. List all airports, city, and 2-letter state code served by the departure procedure.

***NOTE**: An obstacle DP may only serve one airport*.

BLOCK (14). LOST COMMUNICATIONS PROCEDURES. ATC is responsible for determining the need and content of lost communications instructions. Leave blank when procedures are the same as in 14 CFR Part 91.185 (standard).

Block (15). COMMUNICATIONS. Enter name of radio communications to be charted; e.g., ATIS, CTAF, Clearance Delivery, Departure Control, etc. Specify frequency only if different than what is currently published for the facility, or unique to the procedure.

BLOCK (16). ADDITIONAL FLIGHT DATA. List any additional charting instructions, items essential to clarify charting or information a specialist has determined needs charting as other than a NOTE. Examples of data may include: terrain features, airports, Military Operating Areas (MOA), holding patterns, or takeoff and departure obstacles; e.g., **Chart _____ MOA; Chart holding pattern at (location).** Ensure that the accompanying Forms 8260-2 contains the appropriate charting instructions for holding patterns supporting the departure procedure.

BLOCK (17). CONTINUATION. Use this area of the sheet to complete any data BLOCKS from previous pages. Indicate BLOCK number and title being contained.

PAGE 3.

BLOCK (18). REMARKS. List information/data which is NOT to be charted; e.g., administrative data or notes for controller information (requested by ATC). These items will not be seen in the NFDD.

BLOCK (19). CHANGES. List changes relating to data entries.

BLOCK (20). REASONS. List reasons for changes relating to data entries

BLOCK (21). COORDINATED WITH. Enter **"X"** in the appropriate boxes. Specify other required coordination. DP coordination must be identical with the approach procedure coordination as outlined in Order 8260.19, paragraph 837d.

BLOCK (22). REQUIRED EFFECTIVE DATE.

1. Enter the effective data as noted in Order 8260.19, paragraph 837c, except that "Proposed" dates may not be used for DP's. Optimally, submit as "routine." En route data submission cutoff dates apply for graphic DP's.

2. If the Form 8260-15A represents a concurrent action, place an attention symbol (* for example) in the effective date space and enter the following standard NOTE in the body of the form:

***Concurrent with (IAP name and amendment number).**

BLOCK (23). FLIGHT INSPECTED BY . Enter the name of the airspace system inspection pilot who conducted the flight inspection, and date.

BLOCK (24). DEVELOPED BY. Enter the name of the procedure specialist developing the data, and the NFPO branch. This individual must sign in the "developed by" space, and enter the date signed.

BLOCK (25). APPROVED BY. Enter the name of the AVN-100 Manager, or his/her delegated representative. This individual must sign in the "approved by" space and enter the date signed.

US Department of Transportation
Federal Aviation Administration

GRAPHIC DEPARTURE PROCEDURE (DP)

☐ OBSTACLE

1. Bearings, headings, courses, tracks, and radials are magnetic.
2. Distances are in nautical miles.
3. Altitudes are minimum altitudes unless otherwise indicated.
4. Graphic depiction attached.

(1) DP Route Description:

(2) Transition Routes

(a) Transition Name	(b) Transition Computer Codes	(c) From FIX/NAVAID	(d) To FIX/NAVAID	(e) Course / Distance	(f) MEA / MOCA	(g) Crossing Altitudes/Fixes

(3) Procedural Data Notes / Takeoff Minimums:

(4) Takeoff Notes:

(5) DP Obstacles:

(6) Fixes and/or NAVAID'S :

(7) DP Name	(8) Number	(9) DP Computer Code	(10) Superseded Number	(11) Dated	(12) Effective Date

(13) Airports Served	
Airport Name	City/State
Airport Name	City/State
Airport Name	City/State
Airport Name	City/State
Airport Name	City/State
Airport Name	City/State
Airport Name	City/State

(14) Lost Communications Procedures:

(15) Communications:

(16) Additional Flight Data:

(17) Continuation:

(18) Remarks:

(19) Changes:

(20) Reasons:

(21) Coordinated with:

ATA ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER ☐ (specify) _____

(22) Required Effective Date:

(23) FLIGHT INSPECTED BY		**(24)** DEVELOPED BY		**(25)** APPROVED BY	
Name:	Date:	Signature:	Date:	Signature:	Date:

INSTRUCTIONS FOR COMPLETING FAA FORM 8260-15C

PAGE 1

BLOCKS (1) THROUGH (10). Instructions are preprinted on page 2 of this form.

PAGE 2 - DEPARTURE (Data Record).

Detailed instructions for completing page 1.

DEPARTURE (Data Record)

1. Bearings, headings, courses and radials are magnetic.
2. Distances are in nautical miles.
3. Altitudes are minimum altitudes unless otherwise indicated.

(1) FIX/NAVAID	(2) LAT/LONG	(3) C	(4) FO/FB	(5) LEG	(6) TC	(7) DIST	(8) ALTITUDE	(9) SPEED	(10) REMARKS

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date

Instructions for completing FAA Form 8260-15C, page 1, Departure Data Record. (See other side)

BLOCK 1. FIX/NAVAID (OPR: Air Traffic)

Enter the name of the fix/NAVAID in one of the following formats: (FIX) 5-letter pronouncable name; (NAVAID) 3-letter facility ID and type (e.g., ABC VORTAC).

BLOCK 2. LAT/LONG (OPR: Proponent)

Enter the latitude and longitude, separated by a "slant(/)" to the nearest hundredth of a second.

BLOCK 3. C (Chart) (OPR: NFPO)

Enter a Y (yes) if a fix is to be charted. Enter a N (no) if a fix does not require charting. Any fix where a change in altitude, course, or speed, including WP's where turns or transitions begin and end, require charting.

BLOCK 4. FO/FB (OPR: Air Traffic/NFPO)

Enter FO (Fly-over) or FB (Fly-by) as appropriate to indicate desired use. FB is the normal designation. Determination is based on operational or obstacle requirements.

BLOCK 5. LEG TYPE (OPR: NFPO)

Enter the two-letter ARINC-424 code for leg type; e.g., IF, TF, RF.

BLOCK 6. TC (OPR: NFPO)

Enter the true course (TC) to the nearest hundredth of a degree. The charting agency will apply magnetic variation, if necessary, and round for publication.

BLOCK 7. DIST (OPR: NFPO)

Enter the distance to the nearest hundredth of a NM. The charting agency will round for publication.

BLOCK 8. ALTITUDE (OPR: Air Traffic/NFPO)

Enter the minimum, mandatory, or maximum altitude in 100-foot increments (or Flight Levels in 1000-foot increments) and label each altitude/flight level as "at/above," "at," or, "at/below."

BLOCK 9. SPEED (OPR: Air Traffic/NFPO)

Enter minimum, mandatory, or maximum airspeed(s) in KIAS. Optionally, the airspeed may be entered as ground speed (GS). Label airspeed restrictions as "at/above," "at," or, "at/below" as appropriate. Following the numerical value, add "K" for KIAS, or "G" for ground speed. Enter restrictions only where necessary for procedural containment, or for traffic flow requirements.

BLOCK 10. REMARKS (OPR: Air Traffic/NFPO)

Enter any pertinent information that would clarify a data entry; e.g., airspeed restriction for turn radius.

U.S. Department
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**Federal Aviation
Administration**

Directive Feedback Information

Please submit any written comments or recommendations for improving this directive, or suggest new items or subjects to be added to it. Also, if you find an error, please tell us about it.

Subject: Order 8260.46A, Departure Procedure (DP) Program

To: DOT/FAA
Flight Procedure Standards Branch, AFS-420
P.O. Box 25082
Oklahoma City, OK 73125

(Please check all appropriate line items)

An error (procedural or typographical) has been noted in paragraph _____ on page _____.

Recommend paragraph _____ on page _____ be changed as follows:
(*attach separate sheet if necessary*)

In a future change to this directive, please include coverage on the following subject:
(*briefly describe what you want added*):

Other comments:

I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____

FTS Telephone Number: _____ Routing Symbol: _____